

WHAT IS CLAIMED IS:

1. A method for a quantitative evaluation of a substrate such as wafer, comprising:

5 defining a number of sequential first regions so that each of the first regions overlaps the adjacent first region;

using a surface data in each of the first regions to determine a normal vector representing a surface configuration of the first region;

10 determining an angular difference between the normal vectors for each combination of adjacent two first regions; and

15 comparing the determined angular difference with a reference to evaluate a quality of a second region including at least one of the first regions.

2. The method of claim 1, wherein the surface data is a thickness data.

20 3. The method of claim 1, wherein the surface configuration is a thickness variation.

4. The method of claim 1, wherein the second region corresponds to a semiconductor chip.

5. The method of claim 1, wherein the second region corresponds to a strip-line region defined between two parallel lines in the substrate.

5 6. The method of claim 1, wherein the second region corresponds to a region covering a boundary of a pair of sites defined in the substrate by spaced apart horizontal and vertical lines.

10 7. The method of claim 1, wherein the second region corresponds an entire area of the substrate.

8. A method for a quantitative evaluation of a substrate such as wafer, comprising:

15 defining a number of sequential first regions so that each of the first regions overlaps the adjacent region;

 using a surface data in each of the first regions to determine a normal vector representing a surface configuration of the first region;

20 projecting each of the normal vectors onto a plane to determine an associated projected component vector;

 determining an angular difference between the projected component vectors for each combination of adjacent two first regions; and

25 comparing the determined angular difference with a

reference to evaluate a quality of a second region including at least one of the first regions.

9. The method of claim 8, wherein the surface data
5 is a thickness data.

10. The method of claim 9, wherein the surface configuration is a thickness variation.

10 11. An apparatus for a quantitative evaluation of a substrate such as wafer, comprising:

means for defining a number of sequential first regions so that each of the first regions overlaps the adjacent first region;

15 means for using a surface data in each of the first regions to determine a normal vector representing a surface configuration of the first region;

means for determining an angular difference between the normal vectors for each combination of adjacent two
20 first regions; and

means for comparing the determined angular difference with a reference to evaluate a quality of a second region including at least one of the first regions.

25 12. The apparatus of claim 11, wherein the surface

data is a thickness data.

13. The apparatus of claim 11, wherein the surface configuration is a thickness variation.

5

14. An apparatus for a quantitative evaluation of a substrate such as wafer, comprising:

means for defining a number of sequential first regions so that each of the first regions overlaps the adjacent first region;

10

means for using a surface data in each of the first regions to determine a normal vector representing a surface configuration of the first region;

means for projecting each of the normal vectors onto a plane to determine an associated projected component vector;

15

means for determining an angular difference between the projected component vectors for each combination of adjacent two first regions; and

means for comparing the determined angular difference with a reference to evaluate a quality of a second region including at least one of the first regions.

20

15. The apparatus of claim 14, wherein the surface data is a thickness data.

25

16. The apparatus of claim 14, wherein the surface configuration is a thickness variation.